

CLAIMS

1. A method of manufacturing a micromachined component comprising:
using a first liquid to etch a first layer located underneath a second layer;
exposing the second layer to a second liquid after using the first liquid, the
second liquid being inorganic and miscible in carbon dioxide; and
5 supercritical drying the micromachined component with carbon dioxide
after exposing the second layer to the second liquid.
2. The method of claim 1 further comprising:
forming the first layer comprised of silicon dioxide, and
providing the first liquid comprised of hydrofluoric acid.
- 10 3. The method of claim 1 further comprising:
forming the first layer comprised of germanium, and
providing the first liquid comprised of hydrogen peroxide.
- 15 4. The method of claim 1 further comprising:
forming the first layer comprised of a polymer, and
providing the first liquid comprised of an organic solvent.

5. The method of claim 1 further comprising:
providing the second liquid comprised of carboxylic acid.
6. The method of claim 1 further comprising:
providing the second liquid comprised of acetic acid.
- 5 7. The method of claim 1 further comprising:
providing the second liquid consisting of glacial acetic acid.
8. The method of claim 1 further comprising:
exposing the second layer to a third liquid after using the first liquid and
before exposing the second layer to the second liquid.
- 10 9. The method of claim 8 further comprising:
providing the first liquid miscible in the third liquid.
10. The method of claim 8 further comprising:
exposing the second layer to a fourth liquid after exposing the second layer
to the third liquid and before exposing the second layer to the second liquid.

11. The method of claim 10 further comprising:
providing the first liquid miscible in the third liquid; and
providing the third liquid miscible in the fourth liquid.

12. The method of claim 10 further comprising:
5 exposing the second layer to a fifth liquid after exposing the second layer to
the fourth liquid and before exposing the second layer to the second liquid.

13. The method of claim 12 further comprising:
providing the first liquid miscible in the third liquid;
providing the third liquid miscible in the fourth liquid;
10 providing the fourth liquid miscible in the fifth liquid; and
providing the fifth liquid miscible in the second liquid.

14. The method of claim 12 further comprising:
providing a single liquid for the third and fifth liquids.

15. A micromachined component manufactured by the method of claim 1.

16. A method of manufacturing a micromachined component comprising:
providing a substrate;
forming a first structural layer over the substrate;
forming a sacrificial layer over the first structural layer;
5 forming a second structural layer over the sacrificial layer;
patterning the second structural layer;
etching the sacrificial layer with a first liquid;
displacing the first liquid with a second liquid, the first liquid being
miscible in the second liquid;
- 10 exposing the second structural layer to a third liquid after displacing the
first liquid, the third liquid being inorganic and miscible in carbon dioxide; and
supercritical drying the first and second structural layers with carbon
dioxide after exposing the second structural layer to the third liquid wherein the
carbon dioxide displaces the third liquid.
- 15 17. The method of claim 16 further comprising:
providing the first liquid comprised of hydrofluoric acid;
providing the second liquid comprised of deionized water; and
providing the third liquid comprised of carboxylic acid.
18. The method of claim 16 further comprising:
20 displacing the second liquid with a fourth liquid.

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19. The method of claim 18 further comprising:

providing the second liquid miscible in the fourth liquid.

20. The method of claim 18 further comprising:

displacing the fourth liquid with a fifth liquid,

5 wherein:

exposing the second structural layer to the third liquid further comprises:

displacing the fifth liquid with the third liquid.

21. The method of claim 20 further comprising:

10 providing the second liquid miscible in the fourth liquid;
providing the fourth liquid miscible in the fifth liquid; and
providing the fifth liquid miscible in the third liquid.

22. The method of claim 21 further comprising:

providing a single liquid for the second and fifth liquids.

15 23. The method of claim 21 further comprising:

providing the second liquid comprised of deionized water;
providing the fourth liquid comprised of hydrogen peroxide;

providing the fifth liquid comprised of deionized water; and

20 providing the third liquid comprised of acetic acid.

24. The method of claim 16 further comprising:

providing the second liquid comprised of deionized water; and

providing the third liquid comprised of acetic acid,

wherein:

5 exposing the second structural layer to the third liquid further
comprises:

displacing the second liquid with the third liquid.

25. A micromachined component manufactured by the method of claim 16.